Application No. 10/662,073 Amendment dated May 27, 2008 Reply to Office Action of February 27, 2007

Recitation of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1. (Previously presented) An absorbent composite comprising superabsorbent material;
- wherein the superabsorbent material has an Absorption Time of about 5+10 a² minutes or greater, wherein a is the mean particle size of the superabsorbent material in millimeters, and an equilibrium absorption capacity of about 15 g/g or greater as measured by the FAUZL test; and
- wherein the superabsorbent material has been neutralized from 30 mole % to 65 mole % with a monovalent metal hydroxide, and further from 5 mole % to 40 mole % with a divalent metal hydroxide.
- 2. (Previously presented) The absorbent composite of Claim 1, wherein the superabsorbent material has an equilibrium absorbent capacity of about 25 g/g or greater as measured by the FAUZL test.

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- 3. (Original) The absorbent composite of Claim 1, wherein the superabsorbent material has an Absorption Time of about 10+10 a² minutes or greater.
- 4. (Original) The absorbent composite of Claim 1, wherein the superabsorbent material has a Gel Bed Permeability of about 20×10^{-9} cm² or greater.
- 5. (Original) The absorbent composite of Claim 1, wherein the superabsorbent material is substantially homogeneously distributed within the absorbent composite.

Application No. 10/662,073 Amendment dated May 27, 2008 Reply to Office Action of February 27, 2007

- 6. (Original) The absorbent composite of Claim 1, wherein the superabsorbent material is zoned within a target area of the absorbent composite.
- 7. (Original) The absorbent composite of Claim 1, wherein the absorbent composite comprises a plurality of layers and the superabsorbent material is located in a layer of the absorbent composite.
- 8. (Original) The absorbent composite of Claim 7, wherein the superabsorbent material is zoned within a target area of the layer of the absorbent composite.
- 9. (Previously presented) The absorbent composite of Claim 1, wherein the superabsorbent material is incorporated primarily away from a target area of the absorbent composite.
- 10. 11. (Canceled)

Page 12 19 19 15

- 12. (Previously presented) A disposable product comprising an absorbent composite;
- wherein the absorbent composite comprises a superabsorbent material having an Absorption Time of about 5+10 a² minutes or greater, wherein a is the mean particle size of the superabsorbent material in millimeters, and an equilibrium absorption capacity of about 15 g/g or greater as measured by the FAUZL test; and
- wherein the superabsorbent material has been neutralized from about 30 mole % to about 65 mole % with a monovalent metal hydroxide, and further from about 5 mole % to about 40 mole % with a divalent metal hydroxide.
- 13. (Previously presented) The disposable product of Claim 12, wherein the superabsorbent material has an equilibrium absorption capacity of about 25 g/g or greater.

Application No. 10/662,073 Amendment dated May 27, 2008 Reply to Office Action of February 27, 2007

- 14. (Original) The disposable product of Claim 12, wherein the superabsorbent material has an Absorption Time of about 10+10 a² minutes or greater.
- 15. (Original) The disposable product of Claim 12, wherein the superabsorbent material has a Gel Bed Permeability of about 20 x 10⁻⁹ cm² or greater.
- 16. (Original) The disposable product of Claim 12, wherein the superabsorbent material is substantially homogeneously distributed within the absorbent composite.
- 17. (Original) The disposable product of Claim 12, wherein the superabsorbent material is zoned within a target area of the absorbent composite.
- 18. (Original) The disposable product of Claim 12, wherein the absorbent composite comprises a plurality of layers and the superabsorbent material is located in a layer of the absorbent composite.
 - Surprisingly, we have succeeded in thermoforming HPMC by careful selection of the conditions, both with carrier technology [such as by the use of a PET film, ideally 200-250 micron thick, which is passed through the thermoforming machine underneath the HPMC film (see GB2362868 for a more detailed explanation of the technique), and without the use of carrier technology. The reason for using the carrier technology is to help the film to maintain its shape and to reduce the physical stresses on the HPMC film during thermoforming.
 - 30 HPMC of different thicknesses can be used (ideally from 75 to 120 micron) without any tearing. On-line lamination of HPMC, where two or more films pass through the thermoformer

WO 03/089329 PCT/GB03/01153

4

and are laminated during the forming step (for example, with two films of HPMC 75 micron each thermoformed together), is also possible.

5 Another important finding is that HPMC can be sealed easily and produces a seal with good resistance to breaking.

The present invention provides a water-soluble container comprising at least one compartment prepared from a thermoformed film of hydroxy propyl methyl cellulose (HPMC).

A further feature of the invention is a process for preparing a water-soluble container comprising at least one compartment which comprises:

- 15 a. feeding at least one HPMC film into a thermoforming machine:
 - b. heating the at least one HPMC film to a temperature of 120 to 140°C, ideally 125 to 135°C, preferably for 1 to 10 seconds, ideally 2 to 6 seconds;
- 20 c. simultaneously or subsequently forming the at least one heated HPMC film into a mould, which is preferably cooled (below room temperature, ideally below 20°C);
 - d. filling the formed film pocket with at least one liquid or solid composition; and
- 25 e. sealing the formed and filled film pocket with a watersoluble film, preferably an HPMC film.

In the process of the present invention two or more

30 compartments can be made. Each container may be a single compartment or comprise two or more individual compartments.

WO 03/089329 PCT/GB03/01153

5

For example each container may be separated by one or more dividing walls into two or more individual compartments.

The film may be a single film, or a laminated film as disclosed in GB-A-2,244,258. Preferably at least one film of the water-soluble laminate film is HPMC.

The film may be produced by any suitable process, for example by extrusion and blowing or by casting. At present generally only cast film is commercially available, such as from agents like Aquafilm (UK), Hartlebury, Worcestershire, DY10 4JB and produced by ENAK Redkiln Way Horsham Sussex England RH13 5QH. Other manufacturer include Cast of USA.

- 15 The thickness of the film used to produce the pouches is preferably 40 to 300 μm , more preferably 70 to 200 μm , especially 80 to 160 μm , more especially 90 to 150 μm and most especially 75 to 120 μm .
- In a thermoforming process a film may be drawn down or blown down into a mould after it has been heated. Thus, for example, the film is heated to the thermoforming temperature using a thermoforming heater plate assembly, and then drawn down under vacuum or blown down under pressure into the mould. Plug-assisted thermoforming and pre-stretching the film, for example by blowing the film away from the mould before thermoforming, may, if desired, be used. The exact amount of vacuum or pressure and the exact thermoforming temperature used depend on the thickness and porosity of the

30 film used.